Cystic cervical metastasis of squamous cell carcinoma of the larynx (A case report)

Larenksin skuamöz hücreli karsinomunun kistik servikal metastazı (Olgu sunumu)

Bülent Aktan[1] Cemal Gündoğdu[2] Suat Eren[3] Harun Üçüncü[1]
Yavuz Sütbeyaz[1] Emre Öztop[1]

School of Medicine, Atatürk University, Erzurum
[1] Department of Otorhinolaryngology [2] Department of Pathology [3] Department of Radiology

Summary

Purpose: Cystic cervical metastasis of squamous cell carcinoma (SCC) in the neck is a rare condition. The primary site of the cystic cervical metastases is commonly tonsillar area. This condition may also be seen due to SCC of the larynx. In this paper, the cystic cervical metastases of the SCC of larynx, which sound interesting to us, have been presented since they rarely occur.

Case report: A mass of 13 cm in diameter was found out in the right cervical region on the examination of the patient who underwent total laryngectomy and left radical neck dissection four months ago due to SCC of larynx. Cystic masses including enhanced elements were observed on the magnetic resonance imaging (MRI). By performing an ulltrasound-guided fine-needle aspiration biopsy on the wall of cystic masses, the SCC metastasis was diagnosed.

Conclusion: The cytological diagnosis of the cystic SCC metastases may be done with ultrasound-guided fine-needle aspiration biopsy performed on the wall of the cystic cervical masses observed on MRI of the operated SCC of larynx.

Key words: Cystic cervical metastasis, squamous cell carcinoma, laryngeal cancer, fine-needle aspiration biopsy, magnetic resonance imaging

* Presented in the XXVII[th] Turkish National Otorhinolaryngology and Head Neck Surgery Congress (October 4-9, 2003, Antalya).

Özet

Amaç: *Boyunda skuamöz hücreli karsinomun (SHK) kistik servikal metastazları az karşılaşılan bir durumdur. Kistik servikal metastazların primer yeri sıklıkla tonsiller bölgedir. Bu durum larenksin SHK'sından dolayı da görülebilir. Bu yazımızda az görülmesi nedeni ile, ilginç bulunan larenksin SHK'sının kistik servikal metastazları saptanan bir olgusu sunulmuştur.*

Bulgular: *Dört ay önce larenksin SHK'sı nedeni ile total larenjektomi ve sol radikal boyun diseksiyonu yapılan hastanın fizik bakısında sağ servikal bölgede ~13 cm çapında bir kitle vardı. Manyetik rezonans görüntülemede (MRG), içinde kontrast tutan kısımlar bulunan kistik kitleler gözlendi. Servikal kistik kitlelerin duvarından, ultrason (US) eşliğinde yapılan ince iğne aspirasyon biyopsisi (İİAB) ile "SHK metastazı" tanısına ulaşıldı.*

Sonuç: *Opere larenks SHK'da MRG ile saptanan kistik servikal kitlelerin duvarından, US eşliğinde yapılan İİAB ile kistik SHK metastazlarının sitolojik tanısı yapılabilir.*

Anahtar Sözcükler: *Kistik servikal metastaz, skuamöz hücreli karsinom, larenks kanseri, ince iğne aspirasyon biyopsisi, manyetik rezonans görüntüleme*

** XXVII. Türk Ulusal Otorinolarengoloji ve Baş Boyun Cerrahisi Kongresinde (4-9 Ekim 2003 Antalya) e-poster olarak sunulmuştur*

Metastases to the cervical lymph nodes are commonly encountered in patients with laryngeal cancer and it is a prognostic factor in the treatment of laryngeal cancer (1). They are commonly seen as solid masses in the neck, whereas these are rarely seen as cystic masses. Cystic squamous cell carcinomas (SCC) in the neck are uncommon conditions. They present primarily or secondarily as metastases in a cervical lymph node. Primary cystic SCC of the neck is branchiogenic carcinoma. However, the development of carcinoma in a branchial cleft cyst is a controversial subject in the literature (2-7).

In a recent study, it has been shown that the primary site of cystic cervical metastases of SCC is commonly found in the palatine or lingual tonsil and rarely in larynx (8). Here we present it as a case report in which right cystic cervical metastases develop after total laryngectomy and left radical neck dissection in a patient with laryngeal cancer.

Case Report

A 57-year-old man was admitted in our clinic due to hoarseness. The oral cavity, nasal cavity, and pharynx were observed to be normal in routine examination. Endoscopic examination with a rigid endoscope in the larynx revealed a vegetative mass in the area of laryngeal side of the epiglottis covering the left false cord, left ventricle, and left vocal cord. Multiple enlarged lymph nodes were palpable in the bilaterally cervical region. Chest X-ray was normal.

Histopathological examination of the biopsy taken from the larynx revealed SCC.

Computed tomography (CT) scan showed laryngeal mass in glottic and supraglottic level with thyroid cartilage invasion and revealed bilaterally enlarged multiple cervical lymph nodes. Total laryngectomy and left radical neck dissection were performed.

Twenty days after the operation, he refused right radical neck dissection and radiotherapy. He was discharged upon his request. Although he was asked, he did not attend to controls. After four months, he applied to our clinic for the second time because of a right cervical mass. In the examination of the patient, the mass was described as being 13 cm in diameter, firm, painless and nonfluctuant. The rest of his examination was unremarkable. Magnetic resonance imaging (MRI) of the neck revealed two cystic masses with thick walls (Figure 1). There were also the adjacent tissue invasion with displacement and adventitial invasion of the common carotid artery. The thick wall and intracystic elements showed contrast enhancement. About 70 cc of fluid was withdrawn during the fine-needle aspiration (FNA). The character of fluid was serohemorrhagic. There was necrotic debris in the cytological examination of the fluid. However, the cytological examination of the ultrasound-guided fine-needle aspiration biopsy made from the wall of cystic masses revealed SCC (Figure 2).

The patient was undergone right radical neck dissection. Histopathological examination revealed cystic lymph node metastases of SCC (Figure 3).

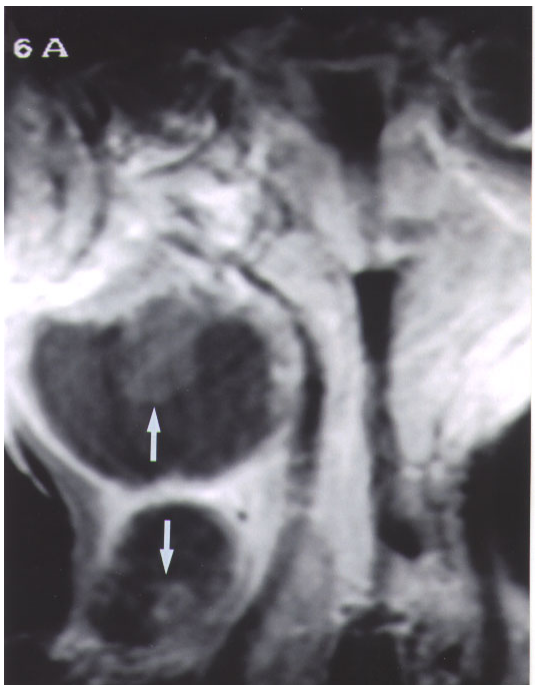

Figure 1. Contrast enhancing T1-weighted MR image (TR/TE, 375/15) shows two cervical cystic masses having intracystic contrast enhancing elements within the cysts (arrows).

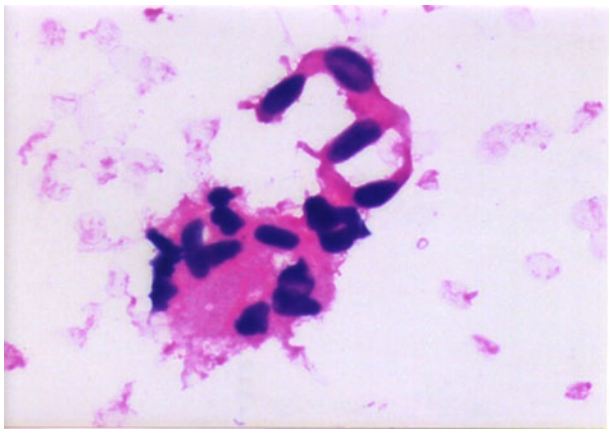

Figure 2. Cytological examination of ultrasound-guided needle biopsy made on the wall of cyst showed atypical squamous cells (H + E x400)

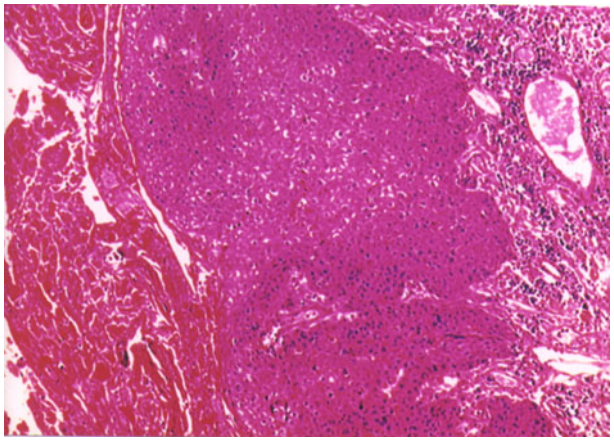

Figure 3. Wall of cystic cervical metastasis consisting of tumour cells and the necrotic debris in the cyst (H + E x100)

Discussion

Laryngeal cancer often metastases to the cervical lymph nodes. These are usually seen as solid and painless masses. But metastases to the cervical lymph nodes of laryngeal cancer may also be encountered as cystic masses (8). In a series of 136 patients with cystic SCC in the neck, it was reported that the most common primary site of cystic cervical metastases of SCC was lingual or palatine tonsil (8). The other areas as primary site of cystic cervical metastases were reported to be nasopharynx, oral cavity, sinuses, nasal vestibule, bronchogenic area, oesophagus and uterine cervix (8-10). Additionally, occult thyroid papillary carcinoma sometimes manifests as lateral cervical cyst (11).

As the most common cystic lesion occurring in the cervical region is the branchial cyst, it is an important problem to decide whether cervical cystic masses are malignant or not in the Otorhinolaryngology-Head and Neck surgery practice. FNA is a reliable procedure in the determination of the malignancy within the cyst. It is suggested that cases of cystic squamous carcinoma metastases to cervical lymph nodes may be determined by cytological examination of fine needle aspirates (9,10). But in our case, cytological examination of fine needle aspirate failed to reveal SCC. Nevertheless, ultrasound-guided fine-needle aspiration biopsies made from the wall of cyst succeeded to diagnose SCC. The age of the patient is the other significant indicator in determining whether the mass is malignant or not. The cystic mass is prone to be malignant in patients over 40 (12-14). That is, in patients over 40, panendoscopy and ipsilateral tonsillectomy attempts should be performed before planning surgery (12).

In cystic cervical metastasis, ultrasound (US) scan reveals presence of cystic versus solid elements, the degree of echogenicity of solid elements, the existence of calcifications, and the regularity and definition of the nodule borders (15).

The CT scan is useful for differential diagnosis of cervical tumours. The IV contrast enhanced scans show adjacent tissue invasion and intracystic contrast enhanced elements within the metastatic cyst. Because of its high sensitivity for soft tissues, MRI is more superior to CT scan and US. Contrast enhancing intracystic component is better visualised in MRI than CT and US. It was suggested that the presence of intracystic enhanced elements in CT images could be specific for a metastatic cyst from a thyroid papillary carcinoma (11). However, in our case intracystic enhanced elements were observed in MRI. Therefore, observing such enhanced elements in cyst convinced us to think that this may result not only from the cystic cervical metastases of papillary thyroid carcinoma but also from the cystic cervical metastasis of SCC of the larynx.

Consequently, it is important to consider SCC of the larynx in the differential diagnosis of cystic cervical masses. The intracystic enhanced elements in MRI may point out the mass to be metastatic. Besides, ultrasound-guided fine-needle aspiration biopsy made on the wall of the cyst may be a more reliable procedure than fine-needle aspiration biopsy in the differential diagnosis of the cystic cervical masses.

Kaynaklar

1. Tomik J, Skladzien J, Modrzejewski M. Evaluation of cervical lymph node metastasis of 1400 patients with cancer of the larynx. Auris Nasus Larynx 2001; 28(3): 233-40.
2. Carrick DG, Jones WI, El Sharkawi A.. Branchiogenic carcinoma-or cystic lymph node metastasis. J Laryngol Otol 1986; 100(9): 1089-90.
3. Foss RD, Warnock GR, Clark WB, Graham SJ et al. Malignant cyst of the lateral aspect of the neck: branchial cleft carcinoma or metastasis. Oral Surg Oral Med Oral Pathol 1991; 71(2): 214-7.
4. Carroll WR, Zappia JJ, McClatchey KD. Branchiogenic carcinoma. J Otolaryngol 1993; 22(1): 26-8.
5. Hall SF, Dexter DF. Cystic cervical metastases are not branchiogenic carcinomas. J Otolaryngol 1993; 22(3): 184-9.

6. Briggs RD, Pou AM, Schnadig VJ. Cystic metastasis versus branchial cleft carcinoma: a diagnostic challenge. Laryngoscope 2002; 112(6): 1010-4.
7. Zimmermann CE, von Domarus H, Moubayed P. Carcinoma in situ in a lateral cervical cyst. Head Neck 2002; 24(10): 965-9.
8. Thompson LD, Heffner DK. The clinical importance of cystic squamous cell carcinomas in the neck: a study of 136 cases. Cancer 1998; 82(5): 944-56.
9. Burgess KL, Hartwick RW, Bedard YC. Metastatic squamous carcinoma presenting as a neck cyst. Differantial diagnosis from inflamed branchial cleft cyst in fine needle aspirates Acta Cytol 1993; 37(4): 494-8.
10. Verma K, Mandal S, Kapila K. Cystic change in lymph nodes with metastatic squamous cell carcinoma. Acta Cytol 1995; 39(3): 478-80.
11. Nakagawa T, Takashima T, Tomiyama K. Differential diagnosis of a lateral cervical cyst and solitary cystic lymph node metastasis of occult thyroid papillary carcinoma. J Laryngol Otol 2001; 115(3): 240-2.
12. Flanagan PM, Roland NJ, Jones AS. Cervical node metastases presenting with features of branchial cysts. J Laryngol Otol 1994; 108(12): 1068-71.
13. Micheau C, Klijanienko J, Luboinski B, Richard J. So-called branchiogenic carcinoma is actually cystic metastases in the neck from a tonsillar primary. Laryngoscope 1990; 100(8): 878-83.
14. Gourin CG, Johnson JT. Incidence of unsuspected metastases in lateral cervical cysts. Laryngoscope 2000; 110(10 Pt 1): 1637-41.
15. Haber RS. Role of ultrasonography in the diagnosis and management of thyroid cancer. Endocr Pract 2000; 6(5): 396-400.

Correspondence address

Dr. Bülent AKTAN
Atatürk Üniversitesi, Tıp Fakültesi KBB Anabilim Dalı
25240 ERZURUM
Tel : 442 2361212-2073
Faks : 442-2361301
E-mail : baktan@atauni.edu.tr